# SPECIFICATION CHANGE NOTICE (SCN)

| 1. Originator Name and Address | 2. | 3. Code Ident | 4. Spec No. |
|---|---|---|---|
| AES-210<br>Washington, DC 20591 | [ ] Proposed<br>[X] Approved | N/A | NAS-SR-1000 |
| | | 5. Code Ident<br>N/A | 6. SCN No.<br>4 |

| 7. System Designation | 8. Related ECR/NCP No. | 9. Contract No. | 10. Contractual Activity |
|---|---|---|---|
| NAS | 8751, 8752, 8818, 8929, 9066 | N/A | N/A |

| 11. Configuration Item Nomenclature | 12. Effectivity |
|---|---|
| System Requirement Specification | N/A |

**This notice informs recipients that the specification identified by the number (and revision letter) shown in block 4 has been changed. The pages changed by this SCN (being those furnished herewith) carry the same date as this SCN. The page numbers and dates listed below in the summary of changed pages, combined with nonlisted pages of the original issue of the revision shown in block 4, constitute the current version of this specification.**

| 13. SCN No. | 14. Pages Changed (Indicate Deletions) | S* | A* | 15. Date |
|---|---|---|---|---|
| 4 | NCP 8751:: 3-66, 3-67 | X | | 08/25/86 |
| | NCP 8752:: A-1, A-2 | X | | 08/25/86 |
| | NCP 8818:: 3-141 | X | | 08/25/86 |
| | NCP 8929:: 3-44A, 3-44B | X | | 08/25/86 |
| | NCP 9066:: 3-103, 3-116 | X | | 08/25/86 |
| | 3-124A, 3-124B | | | |
| | C-15, C-15A | | | |
| | C-15B | | | |

| 16. Technical Concurrence | 17. Date |
|---|---|
| John Fugett, Project Manager | 10/30/86 |

* S - Indicates Supersedes Earlier Page; A - Indicates Added Page

3.2.8.B

to, conflict-free flight path generation recommendations, aerodrome recommendations, and other methods of providing assistance.

1. The system shall provide the specialist with the following recommendations for resolving an emergency:

   a. The names, distances, and times to the nearest aerodromes

   b. The heading and recommended control instructions for descent to the aerodrome selected by the user

   c. Identification and location with respect to the aircraft in distress of other aircraft in conflict with the recommended emergency flight path

   d. Recommended control instructions for each aircraft in conflict with the emergency flight path that can clear the flight path and still avoid other conflict

2. Recommendations provided by the system shall be based on the following information provided by the specialist or retrieved from the system data base:

   a. Type of emergency
   b. Aircraft identification
   c. Current position
   d. Current altitude
   e. Current airspeed
   f. Current heading
   g. Fuel remaining

C. The NAS shall provide a means for specialists to alert other specialists when an airborne communications failure is determined to have occurred.

1. The system shall alert ATC specialists at all ACFs along the proposed route of flight and at the proposed destination that an air-ground communications failure has apparently occurred aboard the aircraft.

2. The alert shall be provided by data message to all locations specified in C.1 upon release by an ATC specialist or supervisor.

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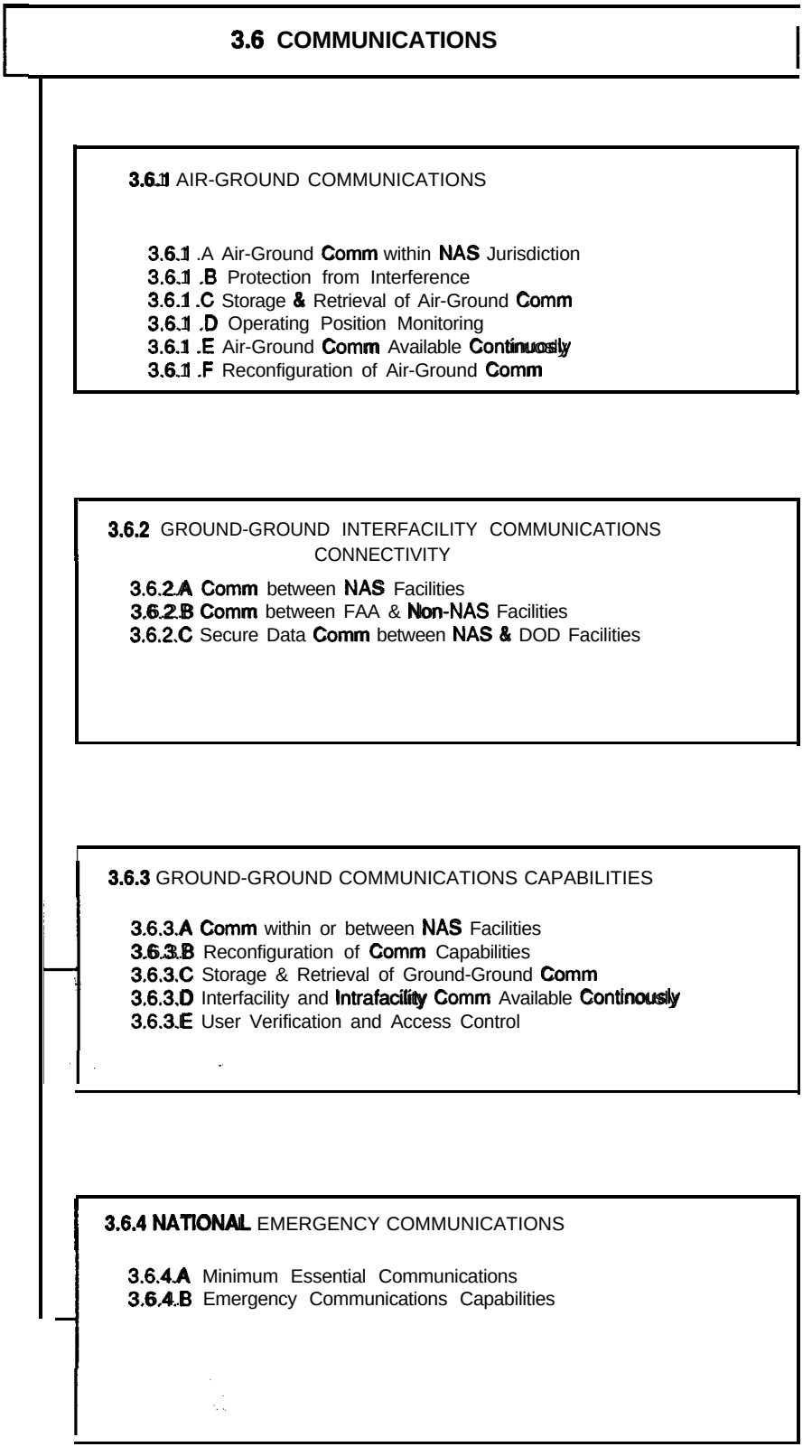


FIGURE 3-8
COMMUNICATION REQUIREMENTS HIERARCHY

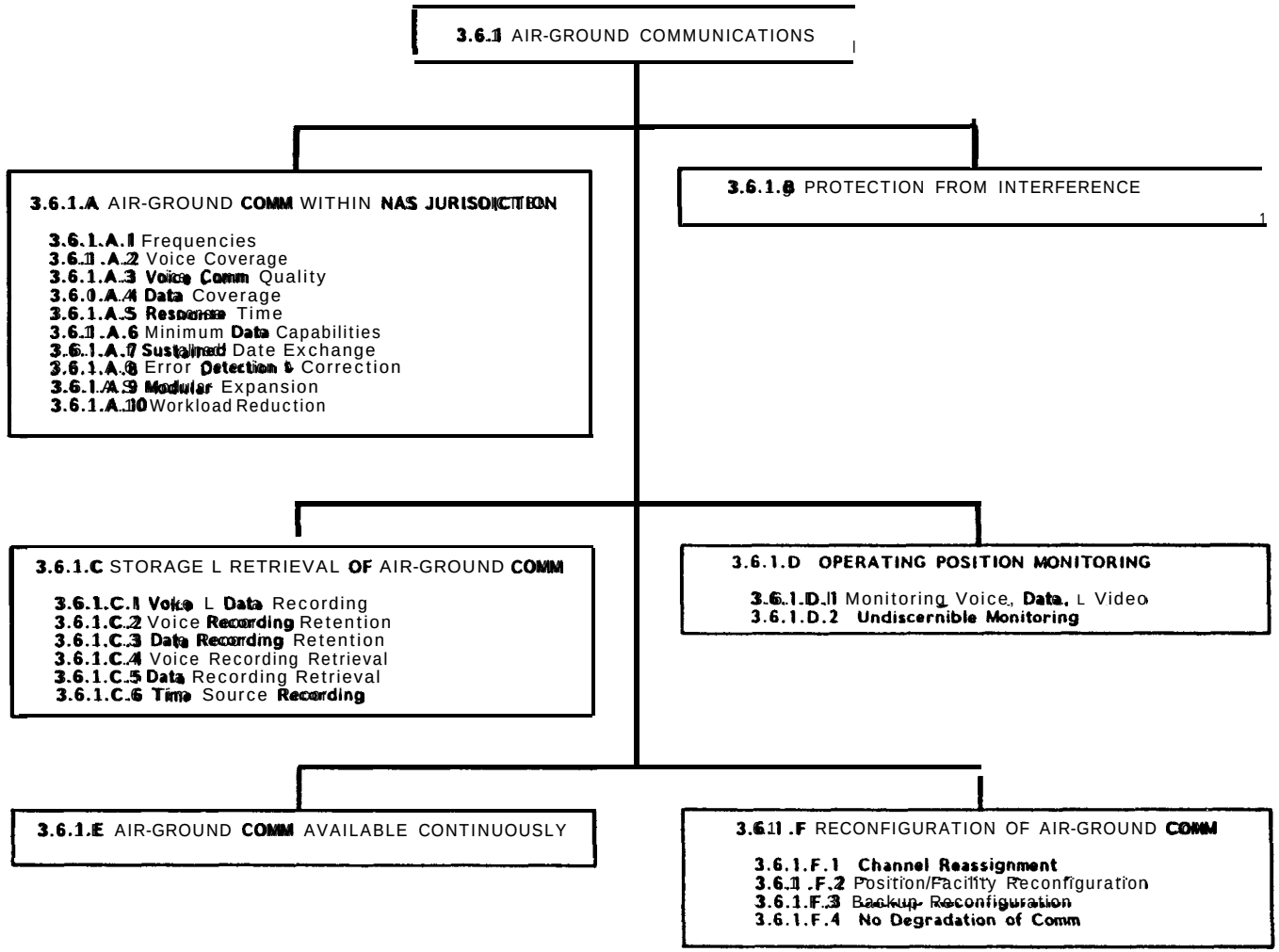


**FIGURE 3-9**
**AIR-GROUND COMMUNICATIONS**
**REQUIREMENTS HIERARCHY**

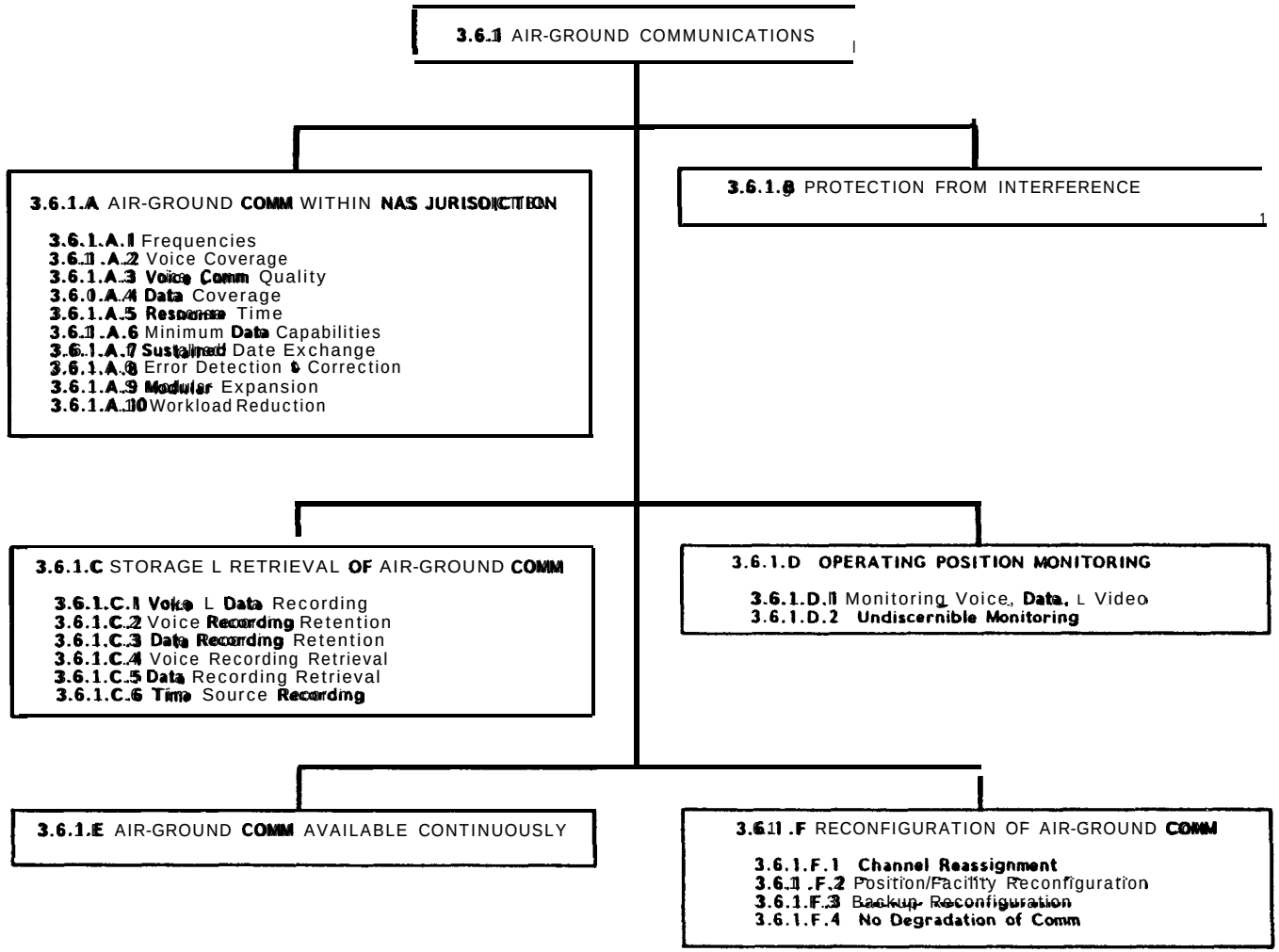


**FIGURE 3-9**
**AIR-GROUND COMMUNICATIONS**
**REQUIREMENTS HIERARCHY**

3.6.2.A

B. The NAS shall provide a communications capability between selected operating, supervisory, maintenance, and administrative positions at FAA facilities and other public/private communications facilities.

1. The NAS shall provide the capability for personnel in selected operating, supervisory, maintenance, and administrative positions at FAA facilities to access external public or private telephone networks from their positions.

2. The NAS shall provide the capability for personnel in selected operating, supervisory, maintenance, and administrative positions at each ATC facility, the ATCCC, and the FAA Headquarters Operations Center to access the DOD Automatic Voice Network (AUTOVON) and any future replacement of that network.

3. The NAS shall provide the capability to interface with public, private, and other government-owned data communications networks, such as the Automatic Digital Network (AUTODIN), to permit personnel in selected operating and supervisory positions at designated ATC

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regional and sectional facilities and, in turn, rapidly communicate the operational status of those facilities back to headquarters.

2. Survivability. The NAS emergency communications network shall be protected from nuclear, high-altitude electromagnetic pulse (HEMP).

3. Endurability. The functions shall be capable of operation for a 30-day period without commercial power at selected critical facilities.

4. Capabilities.

   a. The Headquarter, NEOF's, RO's and ARTCC's. shall be capable of simultaneous voice and data communications with two other locations.

   b. The Headquarters, NEOF's and other selected locations, shall be capable of off-line data generation, and data storage.

5. Vulnerability. The NAS emergency communications network shall provide voice and data encryption, if available, to secure all unclassified, sensitive, National Security related communications.

6. Interoperability. The NAS emergency communications network shall be capable of interoperating with DOD/USAF, NCA, Military command posts (including airborne command post), USCG, FEMA, other Federal agencies, Civil defense, amateur radio, local police, and fire departments.

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TABLE 3-6
NAS SERVICE FUNCTIONAL CATEGORIES
(Continued)

| SECTION | CRITICAL | ESSENTIAL | ROUTINE |
|---|---|---|---|
| **3.1.4 - Flight Plan Submission and Evaluation** | | | |
| A. | | X | |
| B. | | X | |
| C. | | | X |
| D. | | | X |
| E. | | X | |
| F. | | X | |
| G. | | | X |
| H. | | | X |
| I. | | X | |
| J. | | X | |
| **3.2.1 - Airspace Management** | | | |
| A. | | X | |
| B. | | X | |
| C. | | X | |
| D. | | X | |
| E. | | X | |
| F. | | X | |
| G. | | X | |
| **3.2.2 - Approach and Departure Sequencing** | | | |
| A. | X | | |
| B. | X | | |
| C. | | X | |
| D. | | X | |
| E. | | X | |
| F. | | X | |
| G. | | X | |

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| G. | | | X |
| H. | | | X |
| I. | | X | |
| J. | | X | |
| **3.2.1 - Airspace Management** | | | |
| A. | | X | |
| B. | | X | |
| C. | | X | |
| D. | | X | |
| E. | | X | |
| F. | | X | |
| G. | | X | |
| **3.2.2 - Approach and Departure Sequencing** | | | |
| A. | X | | |
| B. | X | | |
| C. | | X | |
| D. | | X | |
| E. | | X | |
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| H. | | | X |
| I. | | X | |
| J. | | X | |
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| A. | | X | |
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| C. | | X | |
| D. | | X | |
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| F. | | X | |
| G. | | X | |
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| A. | X | | |
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| C. | | X | |
| D. | | X | |
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| F. | | X | |
| G. | | X | |

airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and Mode C (altitude reporting) are used in air traffic control.

MONITORING - Certain aeronautical advisory services made available by the NAS to airborne aircraft. Service consists of VFR flight following and the providing of various degrees of traffic and weather information to requesting pilots.

MOVEMENT AREA - The runways, taxiways, and other areas of an aerodrome which are utilized for taxiing/hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

NAS STAGE A - The en route ATC system's radar, computers and computer programs, controller plan view displays (PVDs/radar scopes), input/output devices, and the related communications equipment which are integrated to form the heart of the automated IFR air traffic control system. This equipment performs Flight Data Processing (FDP) and Radar Data Processing (RDP). It interfaces with automated terminal systems and is used in the control of en route IFR aircraft.

NATIONAL AIRSPACE SYSTEM/NAS - The NAS as used herein describes the FAA facilities, hardware, and software that are a predominant part of the NAS infrastructure and the personnel who operate and maintain that equipment to provide services to the user.

NATIONAL EMERGENCY - A condition declared by the President or the Congress of the U.S. which authorizes certain emergency actions to be undertaken in the national interest. Actions to be taken may include partial or total mobilization of national resources.

NATIONAL SEARCH AND RESCUE PLAN - An interagency agreement which provides for the effective utilization of all available facilities in all types of search and rescue missions.

NAVAID CLASSES - VOR, VORTAC, and TACAN aids are classed according to their operational use. The three classes of NAVAIDS are:

T - Terminal
L - Low altitude
H - High altitude

NOTICE TO AIRMEN/NOTAM – A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in, the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

NUISANCE ALERT – An unwarranted alert message to a specialist, warning of a present or predicted unsafe situation.

OBSTACLE – An existing object, object of natural growth, or terrain at a fixed geographical location, or which may be expected at a fixed location within a prescribed area, with reference to which vertical clearance is or must be provided during flight operation.

OBSTRUCTION – An object/obstacle exceeding the obstruction standards specified by FAR Part 77, Subpart C.

OFF-LINE STORAGE – Storage facilities allowing access to information (voice and/or data) recorded within the past 15 days.

ON-LINE STORAGE – Storage facilities allowing immediate access to information (voice and/or data) recorded within the past 24 hours.

PARTICIPATING AIRCRAFT – Aircraft in any of the following categories:

1. Aircraft conducting flight in accordance with instrument flight rules (IFR aircraft)

2. Aircraft conducting flight in accordance with visual flight rules (VFR aircraft) in a Terminal Control Area

3. VFR aircraft operating on a special VFR clearance

4. VFR aircraft with an operating Mode C transponder

5. VFR aircraft communicating with Air Traffic Control

POSITIVE CONTROL – The separation of all air traffic, within designated airspace, by air traffic control.

POSITIVE CONTROL AREA/PCA – (See Controlled Airspace).

PRECIPITATION – Any or all forms of water particles (rain, fog, sleet, hail, or snow) that fall from the atmosphere and reach the surface.

PREDICTED – That which is expected at some future time, postulated on analysis of past experience and tests.

# NATIONAL AIRSPACE SYSTEM

# SYSTEM REQUIREMENTS SPECIFICATION

## NAS-SR-1000

## CHANGE 4

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

| | |
|---|---|
| NAS-SR-1000: | 21 MARCH 1985 |
| CHANGE 1: | 24 JANUARY 1986 |
| CHANGE 2: | 08 APRIL 1986 |
| CHANGE 3: | 30 JUNE 1986 |
| CHANGE 4: | 25 AUGUST 1986 |

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